

(iv) *Seam strength.* The seam strength of the seams in each inflation chamber of at least one PFD must be determined in accordance with ASTM D 751 (incorporated by reference, see § 160.076-11) except that 25 by 200 mm (1 by 8 in.) samples may be used where insufficient length of straight seam is available.

(e) *Additional tests.* The Commandant may prescribe additional tests for approval of novel or unique designs.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996; USCG-2000-7790, 65 FR 58463, Sept. 29, 2000]

§ 160.076-27 [Reserved]

§ 160.076-29 Production oversight.

(a) Production tests and inspections must be conducted in accordance with this section and subpart 159.007 of this chapter unless the Commandant authorizes alternative tests and inspections. The Commandant may prescribe additional production tests and inspections necessary to maintain quality control and to monitor compliance with the requirements of this subpart.

(b) Production oversight must be performed by the same laboratory that performs the approval tests unless the Commandant determines that the employees of an alternative laboratory have received training and have access to the same information as the inspectors of the laboratory that conducted the approval testing.

(c) In addition to responsibilities set out in part 159 of this chapter and the accepted Laboratory Follow-up Procedures, each manufacturer of an inflatable PFD and each recognized laboratory inspector shall comply with the following, as applicable:

(1) *Manufacturer.* Each manufacturer must—

(i) Except as provided in paragraph (e)(2) of this section, perform all required tests and examinations on each PFD lot before any required inspector's tests and inspection of the lot;

(ii) Follow established procedures for maintaining quality control of the materials used, manufacturing operations, and the finished product;

(iii) Implement a continuing program of employee training and a program for

maintaining production and test equipment;

(iv) Admit the inspector to any place in the factory where work is done on PFDs or component materials, and where parts or completed PFDs are stored;

(v) Have an inspector observe the production methods used in producing the first PFD lot and observe any revisions in production methods made thereafter; and

(vi) Allow the inspector to take samples of completed PFDs or of component materials for tests required by this subpart and for tests relating to the safety of the design.

(2) *Recognized laboratory oversight.* An inspector from a recognized laboratory shall oversee production in accordance with the MOU. During production oversight, the inspector shall not perform or supervise any production test or inspection unless—

(i) The manufacturer has a valid approval certificate; and

(ii) The inspector has first observed the manufacturer's production methods and any revisions to those methods.

(3) The inspector must perform or supervise testing and inspection of at least one in each five lots of PFDs produced.

(4) During each inspection, the inspector must check for compliance with the manufacturer's quality control procedures.

(5) Except as provided in paragraph (c)(6) of this section, at least once each calendar quarter, the inspector must examine the manufacturer's records required by § 160.076-33 and observe the manufacturer perform each of the tests required by § 160.076-31(c).

(6) If less than six lots are produced during a calendar year, only one lot inspection and one records' examination and test performance observation are required during that year. Each lot tested and inspected under paragraph (c)(3) of this section must be within seven lots of the previous lot inspected.

(d) *PFD lots.* A lot number must be assigned in accordance with UL 1180 to each group of PFDs produced. Lots must be numbered serially. A new lot must be started whenever any change

in materials or a revision to a production method is made, and whenever any substantial discontinuity in the production process occurs. Changes in lots of component materials must be treated as changes in materials. The lot number assigned, along with the approval number, must enable the PFD manufacturer, by referring to the records required by this subpart, to determine the supplier of the components used in the PFD and the component supplier's identifying information for the component lot.

(e) *Samples.* For the tests, examinations, and inspections required by § 160.076–31, inspectors and manufacturers shall select samples as provided in this paragraph.

(1) Samples shall be selected at random from a lot in which all PFDs or materials in the lot are available for selection. Except as provided in § 160.076–31(c), samples must be selected from completed PFDs.

(2) Different samples must be selected for the manufacturer's and inspector's tests, except, if the total production for any five consecutive lots does not exceed 250 PFDs, the manufacturer's and inspector's tests may be run on the same sample(s) at the same time.

(3) The number of samples selected per lot must be at least equal to the applicable number required by Table 160.076–29A for manufacturers or Table 160.076–29B for inspectors.

(4) The following additional requirements apply as indicated in Table

160.076–29A to individual sample selections by manufacturers:

(i) Samples must be selected from each lot of incoming material. The tests required under paragraphs 160.076–25(d)(2)(i) through 160.076–25(d)(2)(iv) prescribe the number of samples to select.

(ii) Samples selected for the indicated tests may not be used for more than one test.

(iii) If a sample fails the over-pressure test, the number of samples to be tested in the next lot produced must be at least two percent of the total number of PFDs in the lot or 10 PFDs, whichever is greater.

(iv) The indicated test must be conducted at least once each calendar quarter or whenever a new lot of material is used or a production process is revised.

(5) The following additional requirements apply as indicated in Table 160.076–29B to individual sample selections by inspectors:

(i) Samples selected for the indicated tests may not be used for more than one test.

(ii) The indicated test may be omitted if it was conducted by the manufacturer on the materials used and by the inspector on a previous lot within the past 12 months.

(iii) One sample of each means of marking on each type of fabric or finish used in PFD construction must be tested at least every six months or whenever a new lot of materials is used.

TABLE 160.076–29A—MANUFACTURER'S SAMPLING PLAN

Lot size:	Number of Samples Per Lot					
	1–100	101–200	201–300	301–500	501–750	751–1000
Tests:						
Inflation Chamber Materials			See Note (a)			
Seam Strength	1	1	2	2	3	4
Over-pressure (b)(c)	1	2	3	4	6	8
Air Retention			EVERY DEVICE IN THE LOT			
Buoyancy and Inflation Medium Retention	1	2	3	4	6	8
Tensile Strength			See Note (d)			
Detailed Product Examination	2	2	3	4	6	8
Retest Sample Size (b)			13	13	20	20
Final Lot Inspection			EVERY DEVICE IN THE LOT			

Notes to Table: (a) See § 160.076–29(e)(4)(i). (b) See § 160.076–29(e)(4)(ii). (c) See § 160.076–29(e)(4)(iii). (d) See § 160.076–29(e)(4)(iv).

TABLE 160.076–29B—INSPECTOR'S SAMPLING PLAN

Lot size:	Number of Samples Per Lot					
	1–100	101–200	201–300	301–500	501–750	751–1000
Tests:						
Over-pressure ^(a)	1	1	2	2	3	4
Air Retention	1	1	2	2	3	4
Buoyancy & Inflation Medium Retention	1	1	2	2	3	4
Tensile Strength			See Note ^(b)			
Waterproof marking			See Note ^(c)			
Detailed Project Examination	1	1	1	2	2	3
Retest Sample Size ^(a)	10	10	13	13	20	20
Final Lot Inspection	10	15	20	25	27	30

Notes to Table: ^(a) See § 160.076–29(e)(5)(i). ^(b) See § 160.076–29(e)(5)(ii). ^(c) See § 160.076–29(e)(5)(iii).

(f) *Accept/reject criteria: manufacturer testing.* (1) A PFD lot passes production testing if each sample passes each test.

(2) In lots of 200 or less PFDs, the lot must be rejected if any sample fails one or more tests.

(3) In lots of more than 200 PFDs, the lot must be rejected if—

(i) One sample fails more than one test;

(ii) More than one sample fails any test or combination of tests; or

(iii) One sample fails one test and in redoing that test with the number of samples specified for retesting in Table 160.076–29A, one or more samples fail the retest.

(4) A rejected PFD lot may be retested only if allowed under § 160.076–31(e).

(g) *Accept/reject criteria: independent laboratory testing.* (1) A lot passes production testing if each sample passes each test.

(2) A lot must be rejected if—

(i) A sample fails more than one test;

(ii) More than one sample fails any test or combination of tests; or

(iii) One sample fails one test and in redoing that test with the number of samples specified for retesting in Table 160.076–29B, one or more samples fail the test.

(3) A rejected lot may be retested only if allowed under § 160.076–31(e).

(h) *Facilities and equipment.* (1) *General.* The manufacturer must provide the test equipment and facilities necessary for performing production tests, examinations, and inspections, unless Commandant has accepted testing at a location other than the manufacturer's facility.

(2) *Calibration.* The manufacturer must have the calibration of all test equipment checked at least every six months by a weights and measures agency or the equipment manufacturer, distributor, or dealer.

(3) *Facilities.* The manufacturer must provide a suitable place and the necessary equipment for the inspector to use in conducting or supervising tests. For the final lot inspection, the manufacturer must provide a suitable working environment and a smooth-top table for the inspector's use.

[CGD 94–110, 60 FR 32848, June 23, 1995, as amended by CGD 94–110, 61 FR 13946, Mar. 28, 1996; 61 FR 15868, 61 FR Apr. 9, 1996]

§ 160.076–31 Production tests and examinations.

(a) Samples used in testing must be selected in accordance with § 160.076–29(e).

(b) On each sample selected—

(1) The manufacturer must conduct the tests in paragraphs (c)(2) through (c)(8) of this section;

(2) The recognized laboratory inspector must conduct or supervise the tests in paragraphs (c)(4) through (c)(8) of this section; and

(3) In addition to meeting the requirements of this section, each test result must meet the requirements, if any, contained in the approved plans and specifications.

(c) When conducting the tests specified by this paragraph, the following conditions must be met:

(1) *Inflation chamber materials.* The average and individual results of testing the minimum number of samples prescribed by § 160.076–25(d)(2) must comply with the requirements in § 160.076–